



### Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current - 1.0 A

#### FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling and polarity protection applications

#### MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

#### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View  
 Marking Code: DS12W ---S12  
 DS14W ---S14  
 DS16W ---S16  
 DS18W ---S18  
 DS110W ---S110  
 DS112W ---S112  
 DS115W ---S115  
 DS120W ---S120  
 Simplified outline SOD-123FL and symbol

#### Absolute Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

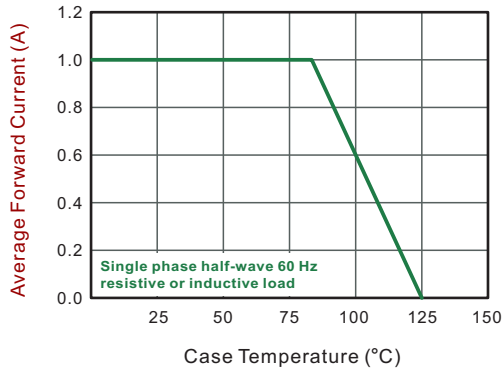
Parameter	Symbols	DS12W	DS14W	DS16W	DS18W	DS110W	DS112W	DS115W	DS120W	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	120	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	30								A
Max Instantaneous Forward Voltage at 1 A	$V_F$	0.55		0.70		0.85		0.90		V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$	$I_R$		0.3			0.2		0.1		mA
			10			5		2		
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	110				80				pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	100								°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +125								°C
Storage Temperature Range	$T_{stg}$	-55 ~ +150								°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

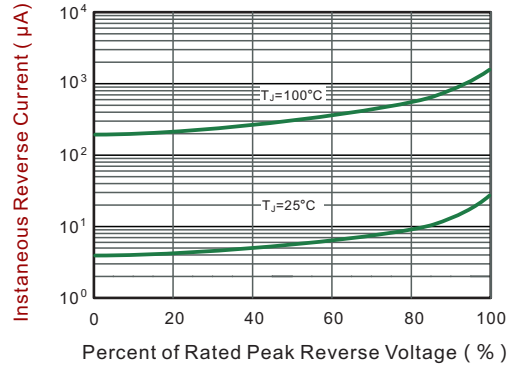
(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



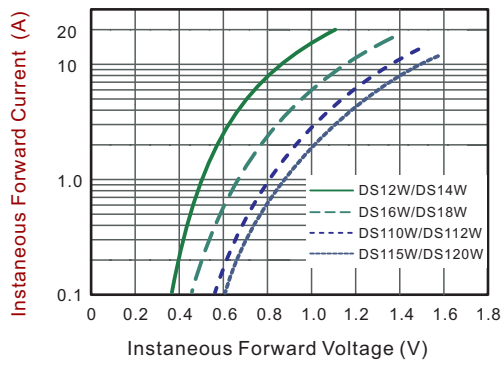
**Fig.1 Forward Current Derating Curve**



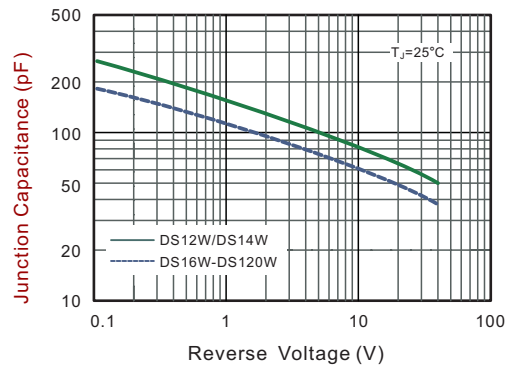
**Fig.2 Typical Reverse Characteristics**



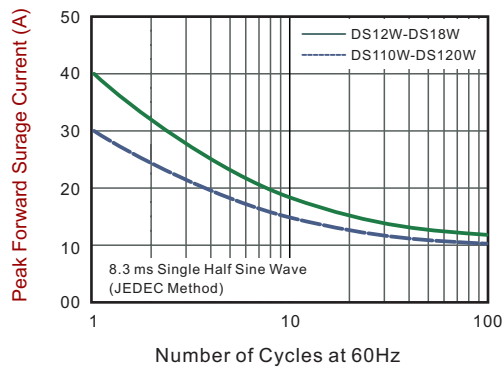
**Fig.3 Typical Forward Characteristic**



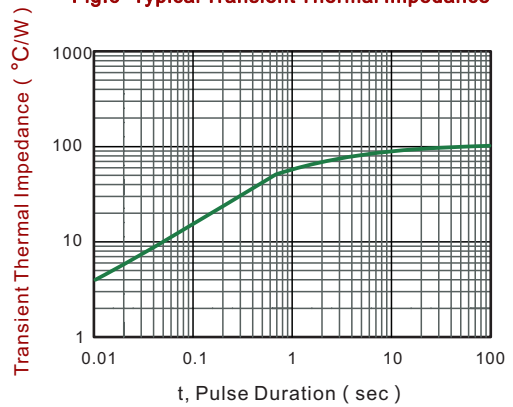
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.6- Typical Transient Thermal Impedance**

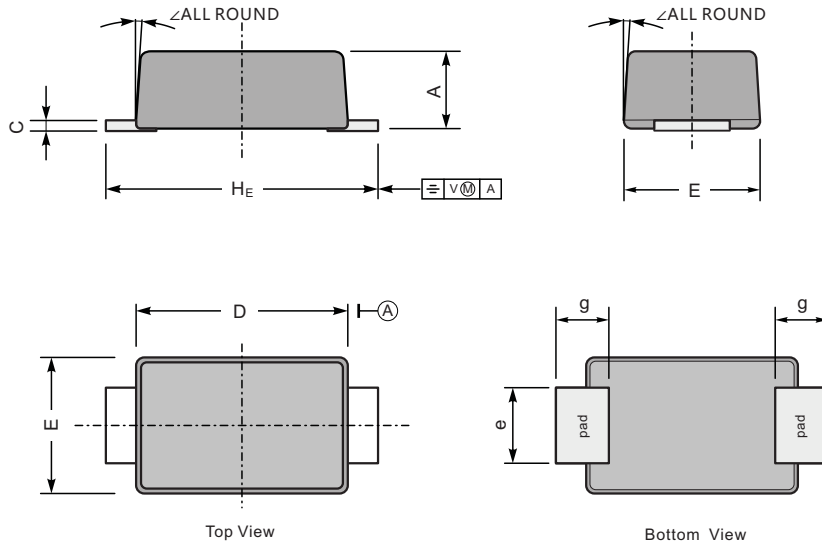




### PACKAGE OUTLINE

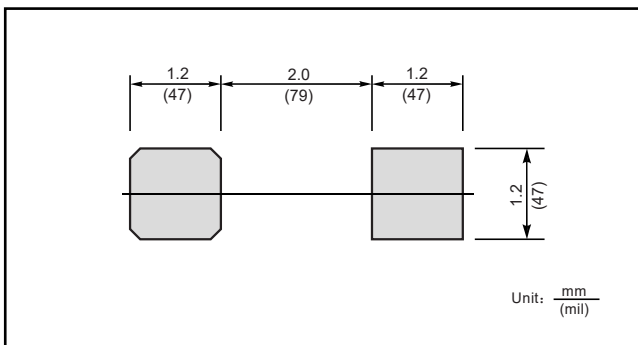
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H <sub>E</sub>	$\angle$
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

### The recommended mounting pad size



### Marking

Type number	Marking code
DS12W	S12
DS14W	S14
DS16W	S16
DS18W	S18
DS110W	S110
DS112W	S112
DS115W	S115
DS120W	S120